Amendments to the Claims:

This listing of the claims will replace all prior versions, and listings of claims in the application:

Listing of Claims

1-55. (Cancelled).

56. (New) An isolated polypeptide comprising an amino acid sequence selected from the group consisting of:

a. an amino acid sequence having at least 70% sequence identity to the amino acid sequence of SEQ ID NO:29; and

b. an amino acid sequence having at least 70% sequence identity to a fragment of the amino acid sequence of SEQ ID NO:29 that binds to *B. anthracis* bacteria,

where the polypeptide binds to *B. anthracis* bacteria

57. (New) The isolated polypeptide of claim 56, where the amino acid sequence has at least 95% sequence identity to the amino acid sequence of SEQ ID NO:29.

58. (New) The isolated polypeptide of claim 56, where the amino acid sequence consists of a peptide fragment of the amino acid sequence of SEQ ID NO:29 that binds to *B. anthracis* bacteria.

59. (New) The isolated polypeptide of claim 56, where the isolated polypeptide consists of the amino acid sequence of SEQ ID NO:29.

60. (New) The isolated polypeptide of claim 56, where the isolated polypeptide is a fusion protein further comprising a heterologous polypeptide.

61. (New) The isolated polypeptide of claim 56, where the isolated polypeptide further comprises a detectable reporter molecule or atom.

62. (New) The isolated polypeptide of claim 61, where the reporter molecule or atom is selected from the group consisting of: a fluorescent molecule, an enzyme that creates an optical signal, a chemilumiphore, a microparticle and a radioactive atom.

63. (New) The isolated polypeptide of claim 56, where the isolated polypeptide is a fusion protein comprising a green fluoresencent protein (GFP) and the amino acid.

64. (New) The isolated polypeptide of claim 63, where the GFP-Gp14 fusion protein binds to *B. anthracis* in the presence of a culture of *B. anthracis* and *B. cereus* comprising a concentration of *B. cereus* ATCC-4342 that is up to 10,000-fold greater than the concentration of *B. anthracis*.

65. (New) The isolated polypeptide of claim 56, where the isolated polypeptide comprises a pyridoxal-phosphate binding domain.

66. (New) A composition comprising an isolated polypeptide, the isolated polypeptide comprising an amino acid sequence encoded by the open reading frame 14 of the polynucleotide sequence at positions 11,829-13,319 of SEQ ID NO:1, where the polypeptide binds to *B. anthracis* bacteria.

67. (New) The composition of claim 66, where the isolated polypeptide is a fusion protein further comprising a heterologous polypeptide.

68. (New) The isolated polypeptide of claim 66, where the isolated polypeptide further comprises a detectable reporter molecule or atom.

69. (New) The isolated polypeptide of claim 68, where the reporter molecule or atom is selected from the group consisting of: a fluorescent molecule, an enzyme that creates an optical signal, a chemilumiphore, a microparticle and a radioactive atom.

70. (New) The composition of claim 66, where the isolated polypeptide is a fusion protein comprising a green fluoresencent protein (GFP) and the amino acid.

71. (New) The composition of claim 66, where the polypeptide comprises a pyridoxal-phosphate binding domain.

72. (New) A method of detecting the presence of absence of *B. anthracis* bacteria in a sample, the method comprising:

a. contacting the sample with a test polypeptide comprising a reporter molecule or atom and an amino acid selected from the group consisting of:
   i. an amino acid sequence having at least 70% sequence identity to the amino acid sequence of SEQ ID NO:29 that binds to *B. anthracis* bacteria;
   ii. an amino acid sequence having at least 70% sequence identity to a fragment of the amino acid sequence of SEQ ID NO:29 that binds to *B. anthracis* bacteria;
   iii. an isolated polypeptide comprising an amino acid sequence encoded by the open reading frame 14 of the polynucleotide sequence at positions 11,829-13,319 of SEQ ID NO:1, where the polypeptide binds to *B. anthracis* bacteria; and
   iv. a fusion protein comprising the amino acid sequence of SEQ ID NO:29, or a fragment of SEQ ID NO:29 that binds to *B. anthracis* bacteria;
b. determining whether the test polypeptide in the sample has bound to *B. anthracis* bacteria in the sample to detect the presence of *B. anthracis* bacteria in the sample.

73. (New) The method of claim 72, where the test polypeptide is a fusion protein comprising a heterologous polypeptide reporter molecule and the amino acid sequence of SEQ ID NO:29, and where the binding of the test polypeptide to the *B. anthracis* bacteria is determined by detecting the heterologous polypeptide in the sample.

74. (New) The method of claim 73, where the fusion protein comprises a green fluorescent protein (GFP) reporter molecule and an amino acid sequence with at least 70% sequence identity to the amino acid sequence of SEQ ID NO:29, and where the presence of the test

polypeptide bound to *B. anthracis* is detected by fluorescence of the GFP reporter molecule.

75. (New) The method of claim 72, where the test polypeptide is a fusion protein comprising the amino acid and a reporter molecule or atom; and

where the step of contacting the sample with the test polypeptide includes the steps of:

i. suspending the sample in phosphate buffered saline to provide a liquid sample solution;
ii. incubating a100 µl aliquot of the liquid sample solution with 100 µl of the GFP fusion protein for 5 minutes at a temperature of 4°C; and
iii. washing the sample to remove test polypeptide from the sample that is not bound to a bacteria; and

where the step of determining whether the test polypeptide in the sample has bound to *B. anthracis* bacteria in the sample comprises the step of detecting the presence or absence of *B. anthracis* bacteria in the sample by detecting the presence or absence of the reporter molecule or atom of the test polypeptide bound to *B. anthracis* in the sample.